Regional
Wastewater
Services
Plan

Semi-annual review

June 2000

Presented by King County Executive Ron Sims to members of the King County Council and Regional Water Quality Committee

Contents

Purpose

In December 1999, the King County Council adopted Ordinance 13680, which comprehensively updated King County's Comprehensive Water Pollution Abatement plan. This update, termed the Regional Wastewater Services Plan, is a 30-year capital improvement program designed to provide wastewater capacity for this region's rapidly growing population and protect its aquatic resources.

Ordinance 13680 requires the King County Executive to report semiannually to the King County Council and King County Regional Water Quality Committee about progress in siting and constructing new wastewater facilities. This report, in conjunction with a briefing to the Council and RWQC, partially satisfies the semi-annual reporting requirement. The Executive will provide a more detailed annual report in December 2000 to satisfy the full requirement.

This report summarizes progress made in implementing the six major components of the Regional Wastewater Services Plan, including treatment, conveyance, inflow and infiltration, combined sewer overflows, biosolids, and water reuse. It also provides an update on King County's efforts to modify the capacity charge legislation.

Treatment improvements

On March 6, King County's Department of Natural Resources (KCDNR) signed a contract with CH2Mhill and its sub-consultants to assist the county in siting the new **North Treatment Plant** and its associated conveyance facilities. The County also finalized a contract with Parametrix to conduct oceanographic studies for siting the North Treatment Plant **Marine Outfall.** Collectively, the treatment plant, conveyance pipes, and marine outfall are referred to as the North Treatment Facilities (NTF).

During April, May, and June, NTF staff and consultants conducted **Leadership Interviews** with over 80 regional and community leaders in King and Snohomish Counties. The interviews provided a forum for discussing our proposed siting process and the development of a siting advisory committee. The NTF team will also host **Focus Groups** in early June with individuals selected at random from within the treatment plant siting area. Feedback from these groups will help us better understand and address people's issues, concerns, and suggestions. The first series of public workshops is planned for June. A summary of what we heard in the leadership interviews and focus groups will be available in late June.

Also in June King County Executive Ron Sims and Snohomish County Executive Bob Drewel will appoint members to a **Siting Advisory Committee** to advise them on siting a new regional wastewater treatment facility, conveyance system and marine outfall. The committee will be made up of regional leaders and will have the following responsibilities.

- participate in developing site-selection criteria to be forwarded to King County Council in September for approval
- advise County Executives on project issues such as process oversight, development of alternatives, potential partnerships and criteria application process(es)

- represent their organization's positions and share committee findings with those they represent
- support and participate in public involvement efforts and project workshops that will narrow the number of potential sites during the 3-year siting process

By the end of 2000, we hope to narrow the number of treatment plant sites to 10-15 and then begin work to develop system packages that include conveyance alignments and outfall locations. By the end of 2001, we hope to narrow the number of system packages to 3 – 5, begin the environmental impact statement, and in December of 2002, select the preferred system package.

See the appendix for siting area map, a list of proposed members for the Siting Advisory Committee, and newspaper articles related to the NTF siting process.

Conveyance improvements

King County DNR made progress on several conveyance projects identified in the Regional Wastewater Services Plan, as summarized below. Cost information for these projects is provided in Table 1.

North-end safeguards

Several projects were completed or are underway in the North end that will protect against overflows into Lake Washington and protect residents in that area. The **North Creek Pump Station** and associated conveyance was completed late in 1999, restoring the north-end system to a 20-year-storm design standard. This level of protection will extend through the year 2010 by constructing the 6 million-gallon **North Creek Storage facility,** which is expected to be operational in March 2003. The King County Council approved procurement waivers in March to expedite contracting with an experienced consultant for this facility, allowing early design and mobilization of a construction contractor. Design work for the storage facility began in May.

The environmental process is complete and permits have been issued to install sensors on the flap gates of the **Kenmore Interceptor.** The flap gate sensors will be attached to a custom-made buoy with radio telemetry equipment installed. If a flap gate opens, the buoy will transmit a signal to West Point Control indicating a possible overflow into Lake Washington. The operators will then take actions to correct the problem and notify the appropriate entities of the situation.

A temporary, trailer-mounted emergency generator is now in place at the **Kenmore Pump Station,** providing power to fully operate the pump station in times of crisis. KCDNR expects to receive a permit soon for the building that will house the permanent generator. We will solicit construction bids in July, and the permanent generator should be in place late in the year 2001.

The King County Council directed and authorized a **Seismic Vulnerability Study** as part of the Regional Wastewater Services Plan. We approved a final consultant scope to complete the first phase of this work to assess the vulnerability of underwater wastewater pipelines to earthquake damage and to recommend short- and long-term protective action if warranted. The study, which began in May, will assess pipe sections under Lake Washington, Lake Sammamish, the Ship Canal, sloughs, rivers, and creeks. The Kenmore

Interceptor (a.k.a. Lakeline) receives the first priority for this study with the remainder of the system analyzed by 2002. We expect the first report to be completed in the fourth quarter of this year.

Other conveyance improvements

The Conveyance System Improvement (CSI) Program made progress on a number of projects during this reporting period.

- we completed planning for the Pacific Pump Station in south King County and have started design work
- we continue to evaluate options to divert excess flows from the **Sweyolocken Pump Station** with possible assistance from the City of Bellevue
- we began developing conceptual planning-level alternatives for the **North Lake Interceptor**
- we began planning to upgrade portions of the **Tukwila Interceptor** and Tukwila Freeway Crossing under the I-5/I-405 freeway near Tukwila
- we continue to consult with the Shoreline and Highlands sewer districts to identify capacity constraints and to specify direction for pre-design and design at the **Hidden Lake Pump Station** and in sections of the **Boeing Creek Trunk**
- we continue to coordinate with local agencies in the **Mill Creek and Green River basins** in south King County in an effort to select alternatives for needed wastewater improvements in King County systems while supporting local system development
- we are halfway complete on the final design work to repair earthquake damage and upgrade Section 1 of the **East Side Interceptor** and we expect construction to begin in the year 2001

Table 1
Estimated costs for conveyance improvements

LISTING OF FACILITY IMPROVEMENTS	TOTAL COST
North Creek Pump Station & conveyance	33,000,000
North Creek Storage	30,000,000
Kenmore Interceptor flapgate sensors	200,000
Kenmore Pump Station emergency generator	1,400,000
Seismic study	500,000
East Side Interceptor Section 1 upgrade	6,000,000

Reducing inflow and infiltration

In January, KCDNR contracted with Earth Tech and a team of subconsultants to begin metering wastewater flows, identifying pilot projects to control I/I and developing a long-term comprehensive regional program for reducing I/I. The consultant team established its project office in January and by March had installed 75 flow meters in the County interceptor system. These meters will operate for 14 months capturing new baseline flow data. By Fall 2000, the team will install another 135 flow meters on or near the County's interceptors to provide information to verify service basin flows and to measure and

document actual flows from each local agency. Earth Tech's local area managers will work with each of the 34 local sewerage agencies to place an additional 529 flow meters throughout local systems this fall. These flow meters will operate for about ten weeks and isolate flows to individual mini basins within local sewer systems.

In late February, about 70 people, including local agency, political, policy and technical representatives, consultants, and County staff participated in the first of twelve regional workshops leading to the formulation of a long-term I/I control strategy. Participants held roundtable discussions about pilot project selection criteria, reimbursement criteria for pilot projects, agency equity issues, local agency coordination, communication and briefings, and I/I assessment protocols. Councilmember David Irons addressed the workshop participants.

During a second workshop in April the local agency representatives approved the selection criteria they will use for selecting up to 10 pilot projects. These pilot projects will be sent to the council for review and approval per RWSP Policy I/IP-2:1. County Councilmember and RWQC Chairwoman Louise Miller addressed the workshop participants.

Reducing combined sewer overflows

In June, KCDNR will complete its first **CSO Program Update** as required by the Department of Ecology. This update, due every five years as part of the West Point NPDES permit renewal application, describes the Division's progress on its CSO program to date, identifies its program for the next five years, and provides a vehicle for requesting changes in the overall CSO program. It also identifies potential impacts to the RWSP from developing regulations and initiatives such as the Endangered Species Act, Total Maximum Daily Loads, and contaminated sediment management. The Update also looks at developments in CSO control technology.

KCDNR completed a draft sediment management plan that identifies seven CSO locations where sediment will require some level of clean up activity. Two of the sites are located within the area being considered for a Superfund listing. The County, together with the City of Seattle, the Port of Seattle, and Boeing are successfully negotiating with EPA and Ecology to prevent a Superfund listing for the Lower Duwamish River. The group proposed an alternative approach to cleaning up contaminated sediments in the waterway. This approach is outlined in a Draft Scope of Work for Remedial Investigation/Feasiblily Study and a Draft Administrative Order on Consent. These documents are ready for public review and comment, and agreement on them is expected by late summer. The study will then take about two and one-half years. In parallel with the RI/FS, early remedial actions will be considered.

Recycling biosolids

KCDNR continues to test and assess three new biosolids processing technologies that have the potential to replace digesters, reduce the number of digesters, reduce truck traffic, and otherwise minimize the potential impacts of solids processing at our wastewater treatment facilities. The results of these assessments will help us make decisions about solids handling at the West, South, and North Treatment Plants.

Exploring and increasing water reuse

Reclaimed Water Stakeholder Task Force and Demonstration Program. After the RWSP was adopted, KCDNR initiated a process to develop criteria to evaluate potential satellite treatment facilities and to solicit ideas and information concerning potential reclaimed water projects. The goal of the County's reclaimed water program is to "use reclaimed water to assist the region to balance water resource needs of the environment and people." Initiating a stakeholder strategy at the onset of the program will provide a broad acceptance of the program and resulting demonstration projects.

The Stakeholder Task Force consists of representatives from the Association of Sewer and Water Districts, Cascade Water Alliance, Cities of Bellevue and Seattle, Suburban Cities, KCDNR, State Departments of Health and Ecology, University of Washington, Center for Environmental Law and Policy, and the Muckleshoot Tribe. KCDNR has requested written project nominations from public and private parties that are interested in partnering to implement water reuse projects consistent with the criteria established through the Task Force process.

KCDNR received 12 nominations for water reuse demonstration projects in Bellevue, Newcastle, Issaquah, Covington, North Creek, Tukwila, the University of Washington, and near the Sammamish River. DNR is reviewing the nominations using the criteria developed by King County and the Stakeholder Task Force. The results of this review will be included in the Reclaimed Water Work Program to be submitted to the King County Council and Regional Waster Quality Committee later this year.

KCDNR is also developing a public outreach strategy as part of the Stakeholder Task Force Project. The purpose of this strategy is to ensure the successful development of a reclaimed water program that is consistent with the schedule of having the first reuse satellite plant built by 2005.

Technology Demonstration Program. KCDNR initiated a water reuse technology demonstration facility designed to develop information about the effectiveness, operability, and cost of technologies that have the potential to:

- reduce the costs of producing "Class A" reclaimed water at small, upstream "satellite" plants for commercial/irrigation uses
- cost-effectively remove nutrients, pathogens, organics, and other contaminants from wastewater as may be necessary to make reclaimed water suitable for discharge to freshwater to supplement surface water supplies

The demonstration facility will combine technologies into fully operational process systems with the potential to meet process objectives. Design of the facility and related utilities is 90 percent complete, and the facility is expected to be operating in March 2001.

Financing – capacity charge

At the time of RWSP adoption, the Washington State statute governing capacity charges included provisions that constrained the County's ability to pursue a policy of growth pays for growth; namely,

- the capacity charge could not exceed $10.50 through the year 2001
- the capacity charge could not exceed one-half of the Residential Customer Equivalent (RCE) rate after the year 2001
- the capacity charge could be set based only on facilities identified in the pre-1989 comprehensive wastewater plan

In recognition of these constraints on growth paying for growth, the King County Council adopted financial policy FP-12 in Ordinance 13680 to pursue changes in the legislation.

> **FP-12:** Existing and new sewer customers shall each contribute to the cost of the wastewater system. To implement this policy, rate and capacity charge methodology will be adopted by the council, after consultation with the RWQC, consistent with state law.
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> 1. King County shall maintain a uniform monthly sewer rate expressed as charges per residential customer equivalent for all customers. Costs of infrastructure improvements for new customers shall be recovered by a capacity charge.
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> 2. King County shall pursue changes in state law to attain greater flexibility in setting capacity charges. In 2000 King County shall seek to achieve the authority to set such charges locally, in the same manner granted to cities and towns. Within six months of achieving the authority to set such charges locally, the executive shall propose for consideration by the council, after consultation with the RWQC, explicit policies for setting the capacity charge including recommendations to achieve growth paying for growth. Upon implementation of these explicit policies, the Seattle combined sewer overflow benefit charge shall be discontinued.

In compliance with this policy, King County successfully pursued changes to the capacity charge enabling legislation in House Bill 2528 that was signed by the Governor on March 27 (see appendix). The bill becomes effective June 8, 2000. The new statute deletes the old constraints on the structure and level of the capacity charge. The County's ability to set a capacity charge will be more in line with the capacity charge legislation governing municipalities.

Proposed policies will be formulated over the summer and forwarded by the County Executive within the required six-month time frame.

Appendix

1. Map showing the siting area for the North Treatment Plant
2. List of proposed members for the Siting Advisory Committee
3. House Bill 2528
4. Copies of newspaper clippings related to the North Treatment Facilities siting process